



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

09/994,910

11/16/2001

Randall L. Rayborn

1067-021

7379

7590

02/26/2008

Edward W. Rilee  
MACCORD MASON PLLC  
Post Office Box 2974  
Greensboro, NC 27402

EXAMINER

KHAN, AMINA S

ART UNIT

PAPER NUMBER

1796

MAIL DATE

DELIVERY MODE

02/26/2008

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 09/994,910	<b>Applicant(s)</b> RAYBORN ET AL.	
	<b>Examiner</b> AMINA KHAN	<b>Art Unit</b> 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2007.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-148 is/are pending in the application.
- 4a) Of the above claim(s) 1-16 and 70-148 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 17-69 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |                                                                                                            |                                                                                         |
|------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____                                                |

### **DETAILED ACTION**

1. This office action is in response to applicant's arguments filed on November 23, 2007.
2. Claims 1-148 are pending. Claims 1-16 and 70-148 are withdrawn from consideration due to a non-elected group.
3. All prior rejections are withdrawn in view of applicant's declaration dated May 9, 2007.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:  

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.
5. Claims 19-30 and 32-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims recite the limitation "treated textile" which is improper since the independent claims are not directed towards a textile but rather a treatment agent. The use with a textile recited in the independent claims is simply an intended use.

***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 17-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over McIntyre et al. (US 3,473,956).

McIntyre et al. teach treating nylon/taffeta fabric with a composition comprising poly(hexamethylene adipamide)-poly(oxyethylene) adipamide copolymer wherein the composition is dispersed in water (column 7, example 3). The reaction ratios taught by McIntyre in this example meet the instantly claimed percentage limitations. McIntyre further teach branching the polymer by adding hexamethylene triamine or trimesic acid (column 4, lines 20-40). McIntyre also teaches using polyoxyethylene groups derived from polyoxyethylene glycols of average molecular weight of 300-6000 to make the polyoxyethylene diamine (column 3, lines 20-41).

McIntyre are silent as to the moisture transport properties of the treated textile and does not teach trimellitic acid or diethylene triamine.

It would have been obvious to one of ordinary skill in the art at the time the invention was made that the compositions of McIntyre would encompass the instantly claimed moisture transport properties because McIntyre teaches treating similar substrates with similar compositions comprising similar components at similar proportions.

Regarding the trimellitic acid limitation, McIntyre teaches the use of the structurally similar trimesic acid. Nothing unobvious is seen in substituting the known claimed isomer for the structurally similar isomer taught by McIntyre since structurally related compounds suggest one another and would be expected to share common properties. McIntyre further does not teach an optimal amount of the branching agent. These are obvious over McIntyre because it would have been within the skill of the artisan to optimize the concentration of branching agent to achieve optimal doses from branching for maximal effectiveness as a coating for synthetic substrates.

Regarding the diethylene triamine limitation, McIntyre teaches the use of the homolog hexamethylene triamine. Nothing unobvious is seen in substituting the known claimed homolog for the structurally similar homolog taught by McIntyre since structurally related compounds suggest one another and would be expected to share common properties. Furthermore, McIntyre teaches using trifunctional compounds of which hexamethylene triamine is simply an example and is not limiting.

8. Claim 69 is rejected under 35 U.S.C. 103(a) as being unpatentable over McIntyre et al. (US 3,473,956) in view of McKinney et al (US 4,975,325).

McIntyre is relied upon as set forth in paragraph 7.

McIntyre is silent as to the proportions of branching agent.

McKinney et al., in the analogous art of nylon 66 polymer branching agents, teaches 0.02 to 0.5 mole% of chain branching agent (column 3, lines 17-22). McKinney further teaches the branching agents trimesic acid (an isomer of trimellitic acid) and

Art Unit: 1796

numerous other branching agents such as bishexamethylene triamine (column 7, lines 22-27).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the compositions taught by McIntyre et al. by incorporating the proportions of polyamines and polyacids taught by McKinney et al. because McKinney teaches that polyamines are useful as chain extenders for nylon 66.

9. Claims 17-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bowen et al. (US 4,468,505).

Bowen et al. teach treating nylon fabrics with compositions comprising poly(hexamethylene adipamide)-poly(oxyethylene) adipamide copolymer wherein the nylon salt percentage is between 18-37% and the weight of the poly(oxyethylene) diamine is between about 300 and 1200 (column 1, lines 25-45) for example the Jeffamines (column 1, lines 55-68).

Bowen et al. are silent as to the moisture transport properties of the treated textile.

It would have been obvious to one of ordinary skill in the art at the time the invention was made that the compositions of Bowen would encompass the instantly claimed moisture transport properties because Bowen teaches treating similar substrates with similar compositions comprising similar components at similar proportions.

Art Unit: 1796

10. Claims 17-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Twilley et al. (US 4,847,142).

Twilley et al. teach treating polyester, acrylics and polypropylene (column 4, lines 45-55) with a composition comprising 5-50% compound A and the rest of compounds of formula B wherein the chain terminating group for compound B may be a carboxylic acid or an amine (column 2, lines 68). Twilley also teaches using polyethylene oxide diamine of average molecular weight of 600-3000 (column 3, lines 40-45). Twilley et al. teach this composition provides a moisture permeable film (abstract).

Twilley et al. are silent as to the moisture transport properties of the treated textile.

It would have been obvious to one of ordinary skill in the art at the time the invention was made that the compositions of Twilley would encompass the instantly claimed moisture transport properties because Twilley teaches treating similar substrates with similar compositions comprising similar components at similar proportions.

11. Claims 17-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Twilley et al. (US 4,808,675).

Twilley et al. teach treating polyester, acrylics and polypropylene (column 4, lines 15-45) with a composition comprising 5-50% compound A and the rest of compounds of formula B wherein the chain terminating group for compound B may be a carboxylic acid or an amine (column 2, lines 5-68). Twilley also teaches using polyethylene oxide

diamine of average molecular weight of 600-3000 (column 3, lines 25-55). Twilley et al. teach this composition provides a moisture permeable film (abstract).

Twilley et al. are silent as to the moisture transport properties of the treated textile.

It would have been obvious to one of ordinary skill in the art at the time the invention was made that the compositions of Twilley would encompass the instantly claimed moisture transport properties because Twilley teaches treating similar substrates with similar compositions comprising similar components at similar proportions.

12. Claims 17-65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Gebben (US 5,744,570).

Gebben teaches composition comprising 30-60% compound A and 70-40% compounds of formula B (column 1, lines 5-30; column 2, lines 1-20). Gebben also teaches using polyoxyethylene diamine of average molecular weight of greater than 600 (column 5, lines 1-10). Gebben teaches this composition as an aqueous dispersion can provide a moisture permeable film to rainwear or tents (column 5, lines 20-60).

Gebben is silent as to the moisture transport properties of the treated textile.

It would have been obvious to one of ordinary skill in the art at the time the invention was made that the compositions of Gebben would encompass the instantly claimed moisture transport properties because Gebben teaches treating similar



Art Unit: 1796

substrates with similar compositions comprising similar components at similar proportions.

### ***Conclusion***

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to AMINA KHAN whose telephone number is (571)272-5573. The examiner can normally be reached on Monday through Friday, 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lorna M. Douyon/  
Primary Examiner  
Art Unit 1796

/Amina S. Khan/